

Year:	Fourth Year
Subject Name:	Periodontology
Subject Code:	1DS1010309
Pre-requisite:	-None-

OBJECTIVES:

The student shall acquire the skill to perform dental scaling, diagnostic tests of periodontal diseases, to use the instruments for periodontal therapy and maintenance of the same.

The student shall develop attitude to impart the preventive measures namely, the prevention of periodontal diseases and prevention of the progress of the disease. The student shall also develop an attitude to perform the treatment with full aseptic precautions; shall develop an attitude to prevent iatrogenic diseases; to conserve the tooth to the maximum possible time by maintaining periodontal health and to refer the patients who acquire specialist's care.

1. Introduction: Definition of periodontology, periodontics, periodontia, Brief historical background, Scope of Periodontics.
2. Development of periodontal tissues, micro structural anatomy and biology of periodontal tissues in detail gingiva, junctional epithelium in detail, Epithelial-mesenchymal interaction, periodontal ligament, Cementum, Alveolar Bone.
3. Defensive Mechanisms in the oral cavity: Role of Epithelium, Gingival Fluid, Saliva and other defensive mechanisms in the oral cavity.
4. Age changes in periodontal structures and their significance in Geriatric Dentistry: Age changes in teeth and periodontal structures and their association with periodontal diseases.
5. Classification of Periodontal Diseases:
 - Need for classification Scientific Basis of classification
 - Classification of gingival and periodontal diseases as described in World Workshop 1989
 - Gingivitis:
 - Plaque associated, ANUG, steroid hormone influenced, Medication influenced, Desquamative gingivitis, other forms of gingivitis as in nutritional deficiency, bacterial and viral infections etc.
 - Periodontitis:
 - Adult Periodontitis, Rapidly progressive periodontitis A&B, Juvenile Periodontitis {localized, generalized, and post juvenile}

- Prepubertal periodontitis
- Refractory periodontitis

6. Gingival diseases:

- Localized and generalized gingivitis, Papillary, and marginal and diffuse gingivitis
- Etiology, pathogenesis, clinical signs, symptoms and management of
- Plaque associated gingivitis
- Systemically aggravated gingivitis {sex hormones, drugs and systemic diseases}
- ANUG
- Desquamative gingivitis-Gingivitis associated with lichen planus, pemphigoid, pemphigus and other vesiculobullous lesions.
- Allergic gingivitis
- Infective gingivitis- Herpetic, bacterial and candidal
- Pericoronitis
- Gingival enlargement {classification and differential diagnosis}

7. Epidemiology of Periodontal diseases

- Definition of index, incidence, prevalence, epidemiology, endemic, epidemic and pandemic
- Classification of indices {irreversible and reversible}
- Deficiencies of earlier indices used in periodontics
- Detailed understanding of Silness & Loe Plaque index, Loe & Silness Gingival index, CPITN & CPI
- Prevalence of periodontal diseases in India and other countries
- Public health significance {All these topics are covered at length under community dentistry. Hence, the topics may be discussed briefly. However, Questions may be asked from the topics for examination}

8. Extension of inflammation from gingiva:

- Mechanism of spread of inflammation from gingival area to deeper periodontal structures
- Factors that modify the spread

9. Pocket: Definition, signs and symptoms, classification, pathogenesis, histopathology. Root surface changes and contents of the pocket

10. Etiology

- Dental plaque (Biofilm)
- Definition, new concept of biofilm
- Types, composition, bacterial colonization, growth, maturation and disclosing agents
- Role of dental plaque in periodontal diseases
- Plaque microorganisms in detail and bacteria associated with periodontal diseases
- Plaque retentive factors
- Material alba
- Food debris
- Calculus
- Definition
- Types, composition, attachment, theories of formation
- Role of calculus in disease

Food impaction

- Definition
- Types, etiology
- Hirschfield's classification
- Signs, symptoms and sequelae of treatment

Trauma from occlusion

- Definition, Types
- Histopathological changes
- Role in periodontal disease
- Measures of management in brief

Habits:

- Their periodontal significance
- Bruxism & Parafunctional habits, tongue thrusting, lip biting, occupational habits

IATROGENIC FACTORS

Conservative dentistry

- Restorations
- Contact point, marginal ridge, surface roughness, overhanging restorations, interface between restoration and teeth

Prosthodontics

- Interrelationship
- Bridges and other prosthesis, pontics {types}
- Surface contour, relationships of margins to the periodontium, Gingival protection theory, muscle action theory & theory of access to oral hygiene

Orthodontics

- Interrelationship, removable appliances and fixed appliances
- Retention of plaque, bacterial changes

Systemic diseases

- Diabetes, sex hormones, nutrition {Vit. C & proteins}
- AIDS & periodontium
- Hemorrhagic diseases, Leukemia, clotting factor disorders, PMN disorders

11. Risk factors: Definition, Risk factors for periodontal diseases

12. Host response

- Mechanism of initiation and progression of periodontal diseases
- Basic concepts about cells, mast cells, neutrophils, macrophages, lymphocytes, immunoglobulins, complement system, immune mechanism and cytokines in brief
- Stages in gingivitis- initial, early, established & advanced
- Periodontal disease activity, continuous paradigm, random burst & asynchronus multiple burst hypothesis

13. Periodontitis:

- Etiology, histopathology, clinical signs and symptoms, diagnosis and treatment of adult periodontitis
- Periodontal abscess; definitions, classification, pathogenesis, differential diagnosis and treatment
- Furcation involvement, Glickmans' classification, prognosis and management
- Rapidly progressive periodontitis
- Juvenile periodontitis: Localized and generalized
- Post- juvenile periodontitis
- Periodontitis associated with systemic diseases
- Refractory periodontitis

14. Diagnosis

- Routine procedures, methods of probing, types of probes, (According to case history)
 - Halitosis: Etiology and treatment. Mention advanced diagnostic aids and their role in brief
15. Prognosis: Definition, types, purpose and factors to be taken into consideration
16. Treatment plan: Factors to be considered
17. Periodontal therapy:
- A. General principles of periodontal therapy, Phase I, II, III, IV therapy
 - Definition of periodontal regeneration, repair, new attachment and reattachment
 - B. Plaque control
 - i. Mechanical tooth brushes, interdental cleaning aids, dentrifices
 - ii. Chemical; classification and mechanism of action of each & pocket irrigation
18. Pocket eradication procedures
- Scaling and root planning
 - Indications
 - Aims and objectives
 - Healing following root planning
 - Hand instruments, sonic, ultrasonic and piezoelectric scalers
 - Curettage & present concepts
 - Definition
 - Indications
 - Aims and objectives
 - Procedures & healing response
 - Flap surgery
 - Definition
 - Types of flaps, design of flaps, papilla preservation
 - Indications & contraindications
 - Armamentarium
 - Surgical procedure & healing response
19. Osseous surgery:
- Osseous defects in periodontal disease
 - Definition

- Classification
- Surgery: resective, additive osseous surgery
- (osseous grafts with classification of grafts)
- Healing responses
- Other generative procedures; root conditioning
- Guided tissue regeneration

20. Mucogingival surgery & periodontal plastic surgeries

- Definition
- Mucogingival problems: etiology, classification of gingival recession (P.D. Miller Jr. and Sullivan and Atkins)
- Indications and objectives
- Gingival extension procedures: lateral pedicle graft, frenectomy, frenotomy
- Crown lengthening procedures
- Periodontal microsurgery in brief

21. Splints

- Periodontal splints
- Purpose and classification
- Principles of splinting

22. Hypersensitivity: Causes, theories and management

23. Implants:

- Definition, types, scope and biomaterials used
- Periodontal considerations: such as implant-bond interface, implant-gingiva interface, implant failure peri-implantitis & management

24. Maintenance phase (SPT)

- Aims, objectives and principles
- Importance
- Procedures
- Maintenance of implants

25. Pharmaco-therapy

- Periodontal dressings
- Antibiotics & anti inflammatory drugs

- Local drug delivery systems
26. Periodontal management of medically compromised patients: Topics concerning periodontal management of medically compromised patients
27. Inter-disciplinary care
- Pulpo-periodontal involvement
 - Routes of spread of infection Simon's classification
 - Management
28. Systemic effects of periodontal diseases in brief: Cardiovascular diseases, Low birth weight babies etc
29. Infection control protocol: Sterilization and various aseptic procedures
30. Ethics

TUORIALS DURING CLINICAL POSTING:

1. Infection control
2. Periodontal instruments
3. Chair position and principles of instrumentation
4. Maintenance of instruments (sharpening)
5. Ultrasonic, piezoelectric and sonic scaling- demonstration of technique
6. Diagnosis of periodontal disease and determination of prognosis
7. Radiographic interpretation and lab investigations
8. To include construction of informative Models and Presentations on conventional and advanced procedures as a part of compulsory rotating internship posting at Department of Periodontology
9. To implement Special training to interns in the area of Tobacco Cessation Counselling at the designated tobacco cessation clinic
10. Motivation of patients- oral hygiene instructions

Students should be able to record a detailed periodontal case history, determine diagnosis, prognosis and plan treatment. Student should perform scaling, root planning, local drug delivery and SPT. Shall be given demonstration of all periodontal surgical procedures.

DEMONSTRATIONS:

1. History taking and clinical examination of the patients

2. Recording different indices
3. Methods of using various scaling and surgical instruments
4. Polishing the teeth
5. Bacterial smear taking
6. Demonstration to patients about different oral hygiene aids
7. Surgical procedures- gingivectomy, gingivoplasty and flap operations
8. Follow up procedures, post operative care and supervision
9. To include demonstration and selective performance of LASER procedure as a part of compulsory rotating internship posting at Department of Periodontology

REQUIREMENTS:

1. Diagnosis, treatment planning and discussion and total periodontal treatment – 25 cases
2. Dental scaling, oral hygiene instructions – 50 complete cases/equivalent
3. Assistance in periodontal surgery – 5 cases
4. A work record should be maintained by all the students and should be submitted at the time of the examination after due certification from the head of the department.

Students should have to complete the work prescribed by the concerned department from time to time and submit a certified record for evaluation

SCHEME OF EXAMINATION FOR BDS

A. First Internal and Second Internal Assessment

Theory: 50 Marks

Section I: 25 Marks

- | | |
|--|------------------|
| Q.1) One <u>Long Answers</u> questions (<u>Essay type</u>) for 7 marks | (1Q*7 Marks)=7 |
| Q.2) <u>Short Essay Questions</u> for 12 marks | (3Q* 4 Marks)=12 |
| Q.3) <u>Short Answer Questions</u> / MCQ for 6 marks | (6Q* 1 Marks)=6 |

Section II: 25 Marks

- | | |
|--|------------------|
| Q.1) One <u>Long Answers</u> questions (<u>Essay type</u>) for 7 marks | (1Q*7 Marks)=7 |
| Q.2) <u>Short Essay Questions</u> for 12 marks | (3Q* 4 Marks)=12 |
| Q.3) <u>Short Answer Questions</u> / MCQ for 6 marks | (6Q* 1 Marks)=6 |

B. Practical/Term Ending viva : 50 Marks

Sr No.	Title	Marks
1	Case History	15
2	Scaling	15
3	Grand Viva with Spotters	20
	Total	50

C. Preliminary exam/3rd Internal

Theory: 100 Marks

Section I: 50Marks

Q.1) One Long Answers questions (Essay type) for 14 marks (1Q*14 Marks)=14

Q.2) Short Essay Questions for 20 marks (3Q* 8 Marks)=24

Q.3) Short Answer Questions / MCQ for 6 marks (12Q* 1 Marks) =12

Section II: 50 Marks

Q.1) One Long Answers questions (Essay type) for 14 marks (1Q*14 Marks)=14

Q.2) Short Essay Questions for 20 marks (3Q* 8 Marks)=24

Q.3) Short Answer Questions / MCQ for 6 marks (12Q* 1 Marks) =12

D. Preliminary Practical Exam: 100 Marks

Sr No.	Title	Marks
1.	Case History	25
2.	Scaling	25
3.	Record and Journals	10
4.	Attendance / Project	10
5.	Grand Viva	20
6.	Spotters	10
	Total	100

E. University Examination Pattern: -

Theory: 70 Marks

Section I: 35 marks

Q.1) One Long Answers questions (Essay type) for 10 marks (1Q*10Marks)=10

Part A:- Topics:-Gingiva, Tooth Supporting Tissues, Aging, Microbiology, Plaque, Calculus, interaction and disease related microbiology, immunity & Inflammation, systemic disorders, smoking and defense mechanism)

Q.2) Short Essay Questions for 20 marks (4Q* 5 Marks)=20

Part B:-Topics:- Gingival Inflammation, enlargements, acute infections, diseases Of gingiva in childhood, Desquamative gingivitis, pockets, bone loss patterns, Response to external forces, chronic periodontitis, ANUG, CNUG, Aggressive Periodontitis

Q.3) Short Answer Questions for 5 marks (5Q* 1 Marks)=5

Section II: 35 marks

Q.1) One Long Answers questions (Essay type) for 10 marks (1Q*10Marks)=10

Part A:- Topics:- Diagnostic criteria, radiographic aid, advanced diagnostics, risk Assessment, prognosis, treatment planning, phase-I Periodontal therapy, Endo-Perio involvement, Furcation involvement, HIV management

Q.2) Short Essay Questions for 20 marks (4Q* 5 Marks)=20

Part B:-Topics:- Periodontal treatment, Aggressive and atypical periodontitis, Acute gingival disease, abscesses, rationale of treatment, surgical techniques, Flap surgical, osseous surgeries, mucogingival & regenerative, implant treatment

Q.3) Short Answer Questions for 5 marks (5Q* 1 Marks)=5

F. University Practical Exam: 90 Marks

Sr No.	Title	Marks
1.	Case History	25
2.	Scaling	25
3.	Record and Journals	10
4.	Attendance / Project	10
5.	Grand Viva with Spotters	20
6.	Internal assessment	10
	Total	90

G. Internal Assessment – Theory : 10 marks, Practical's : 10 marks

PRESCIBED BOOK:

1. Glickman's Clinical Periodontology – Carranza
2. Fundamental of periodontal instrumentation & advanced root instrumentation (6th Ed.)- Gehrig, Jill
3. For Dental Hygienist- Wilkins

REFERENCE BOOKS:

1. Essentials of Periodontology and periodontics – Torquil Macphee
2. Cotemporary periodontics- Cohen
3. Periodontal therapy- Goldman
4. Orbans' periodontics- Orban
5. Oral Health Surgery- W.H.O
6. Preventive Periodontics- Young and Stiffler
7. Public Health Dentistry- Forrest
8. Clinical Periodontology- Jan Lindhe
9. Periodontics- Baer & Morris
10. Public Health Dentistry – Slack
11. Advanced Periodontal Disease - John Prichard